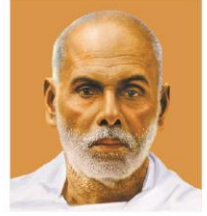


Sree Narayana Guru College of Engineering & Technology

CHALAKKODE P.O., KOROM, PAYYANUR, KANNUR-670 307



INTERNAL EXAM - SAMPLE ANSWER SHEETS



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Chalakoode-P.O., Payyanur, Kannur - 670307, Kerala



CONTINUOUS ASSESMENT TEST - ANSWER BOOK

Name: Hiba T.K

Roll Number: 25

Register Number: SNC21CJ025

Branch: CSE

Course Code/Name: CST 205

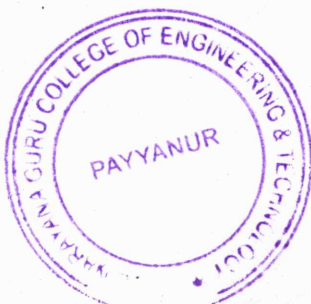
Continuous Assessment No.	Date of Exam	Session	Maximum Marks	Marks obtained	Student Signature	Staff Signature
1	8-11-2	FN.	50	47		
TOTAL MARKS					47	
STAFF SIGNATURE						

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
A	3	1.5	3	2.5	3	5.5		14			7							
B						7.5												
C																		
D																		
Total	3	1.5	3	2.5	3	13		14			7							
TOTAL MARKS														47				

INSTRUCTIONS TO STUDENTS

- * Student should write Name & Reg. No. in the front sheet.
- * Answer all questions.
- * Students must be seated in the Exam Hall in time and stay until the completion of the Examinations.
- * Highlight important points.
- * Draw figure/flowchart wherever necessary.
- * Answer sheets should be returned to concerned staff after verifying the marks.

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11. Visibility table:

	private	No Modifier	protected	public
same class	Yes	Yes	Yes	Yes
same package sub-class	No	Yes	Yes	Yes
same package non sub class	No	Yes	Yes	Yes
Different package sub-class	No	No	Yes	Yes
Different package non-sub class	No	No	No	Yes.

3. • Array is the homogenous element that are stored in a contiguous memory location.
- Array is a static data structure.
 - size of the array is fixed during declaration, we can't change the size.
 - Element in 0^{th} index corresponds to first element.
 - Advantages: Random access.
 - Disadvantage: size limit.
 - Vector is a dynamic array array can be grow or shrink.
 - Based on ArrayList, Vector has two differences.
 - Vector is synchronized.
 - Vector extends abstract class and implement List interface.

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- Vector has a initial capacity size.
- When initial capacity is reached, the vector provide space for storing the object and extra space for additional object.

4. Datatype is the values that a varrrable can take.

- Datatype are of two,
 - Primitive datatype
 - Nonprimitive datatype.

• primitive datatype is inbuilt data type it is of types, they are int, byte, char, float, double, boolean.

int, byte, ^{short, long}: They can assign integer value. (1, 2, 3..)

char: They assign characters that is letters. (a, b, x..)

float and double: decimal values, float is for single precision and double is for multiple precision. (1.2, 3.4.)

Boolean: They assign truth value, that is true or false. (true or false).

5. Interface:

- Grouping of related method with no method body.
- Achieve abstraction and multiple inheritance.
- No object creation.
- No constructors.
- Abstract method is used.
- Interface variable or attributes - final, static
- Interface is blue print of class.

- Ensure security.
- Similar reference type as class.
- It contains : constants.
method signature.
default and static method.

• Syntax:

```
interface ~ interface-name
{
    // declare constants
    // abstract method.
}
```

Packages:-

- Grouping of related class and interface.
- Think of it as folder in file ~~dictionary~~ ^{directory}.
- Packages are mechanism to avoid name conflicts and write better maintainable code.
- Encapsulation of group of class, interface, subpackages to provide access protection.
- Reusability is the main advantage of package.
- Two type of packages: inbuilt-packages - pre existing package in java (java.io.*;)
user defined - user define the package.
(javac, security).


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8. Looping statement:

- statement which execute the program repeatedly till the termination condition is obtained.
- It will execute the program in the loop repeatedly.

There are three types of Looping statement:

- while.
- do while
- for loop.

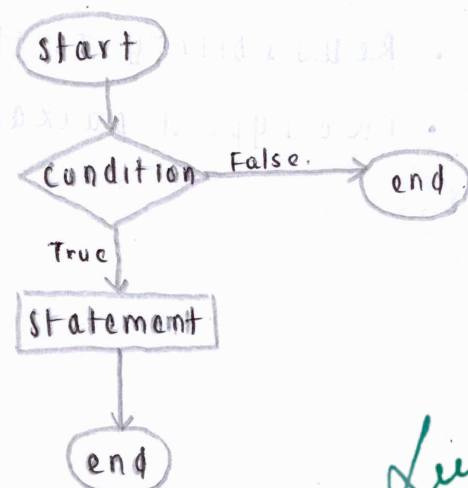
While loop:

- It is a entry control loop.
- Condition is tested first and then the implementation of statement occurs.
- Controlling condition is at the beginning of loop.
- Iteration of the loop is not occurs at first if the condition is false.

Syntax:

```
while (condition)
{
    statement;
}
```

Flowchart:



Example:

```
class While {
    public static void main (String [] args) {
        int n = 1;
        while (n <= x) {
            System.out.println(x);
            n++;
        }
    }
}
```

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}
}
}

A

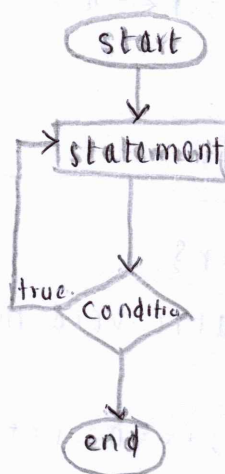
Do while loop :

- It is exit control loop.
- Statement is executed ^{atleast one} then the condition is checked.
- Controlling condition is at the end of the loop.
- Iteration of the loop occurs even if the condition is false.

Syntax :

```
do {
    condition
    statement;
}
while (condition);
}
```

Flowchart :



Example :

```
class Downwhile {
public static void main (String[] args) {
    int n = 0;
    {
    do {
        System.out.println(n);
        n++;
    }
    while (n < 10)
    }
}
```

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For loop:

For loop is a looping statement which execute program until the value is true.

for (initialization; condition; increment)

initialization: initializing a variable.

condition: execute once.

increment: increment or decrement.

Syntax:

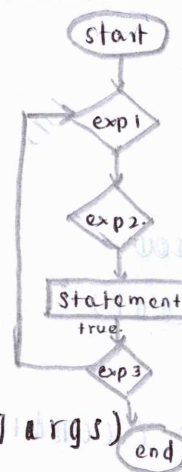
```
for ( exp1i = 0; exp2i <= n; exp3i++)
```

```
{  
    statement;  
}
```

Example:

```
class For {  
    public static void main (String [] args)  
    {  
        for (i = 0; i <= n; i++)  
        {  
            system.out.println(n);  
        }  
    }  
}
```

Flowchart:



6. b) Fire alarm System:

Function oriented design:

- deals with interactive unit
- Hierarchy of functional unit
- top down approach.
- data dictionary → structured unit → pseudocode.

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object oriented design:

- deals with object
- acquire properties and behaviour of objects.
- strategy $\rightarrow$ communication $\rightarrow$ metho

Fire alarm system:

- Multi storied building must have computerized fire alarm at each room.
- It contains smoke detector and fire alarm system.
- fire alarm check the condition of smoke detector.
- fire condition is reported by smoke detector and monitor and determine the location.
- sound alarm to neighbouring location.
- light alarm to computer console.
- Fire fighting personed get alarm and block the time.
- Fire condition get handled and FAS support re setting of alarm.

Function oriented approach:

// Globally to achieve various function

bool detector_status [MAX ROOM];

int detector_locs [MAX ROOM];

bool alarm_status [MAX ROOM];

// alarm get achieved after status is set

int alarm_locs [MAX ROOM];

// room no. of alarm.

int neighbour_alarm [MAX ROOM];

Each location has ten neighbour

Function unit:

Function operated by system

interrogate - detector;

get detector - location;

report neighbour - location;

set alarm;

reset alarm;

object oriented approach;

class detector.

attributes: status, neighbour, location

operation: create, get - neighbour, status = sense
get - location.

class alarm.

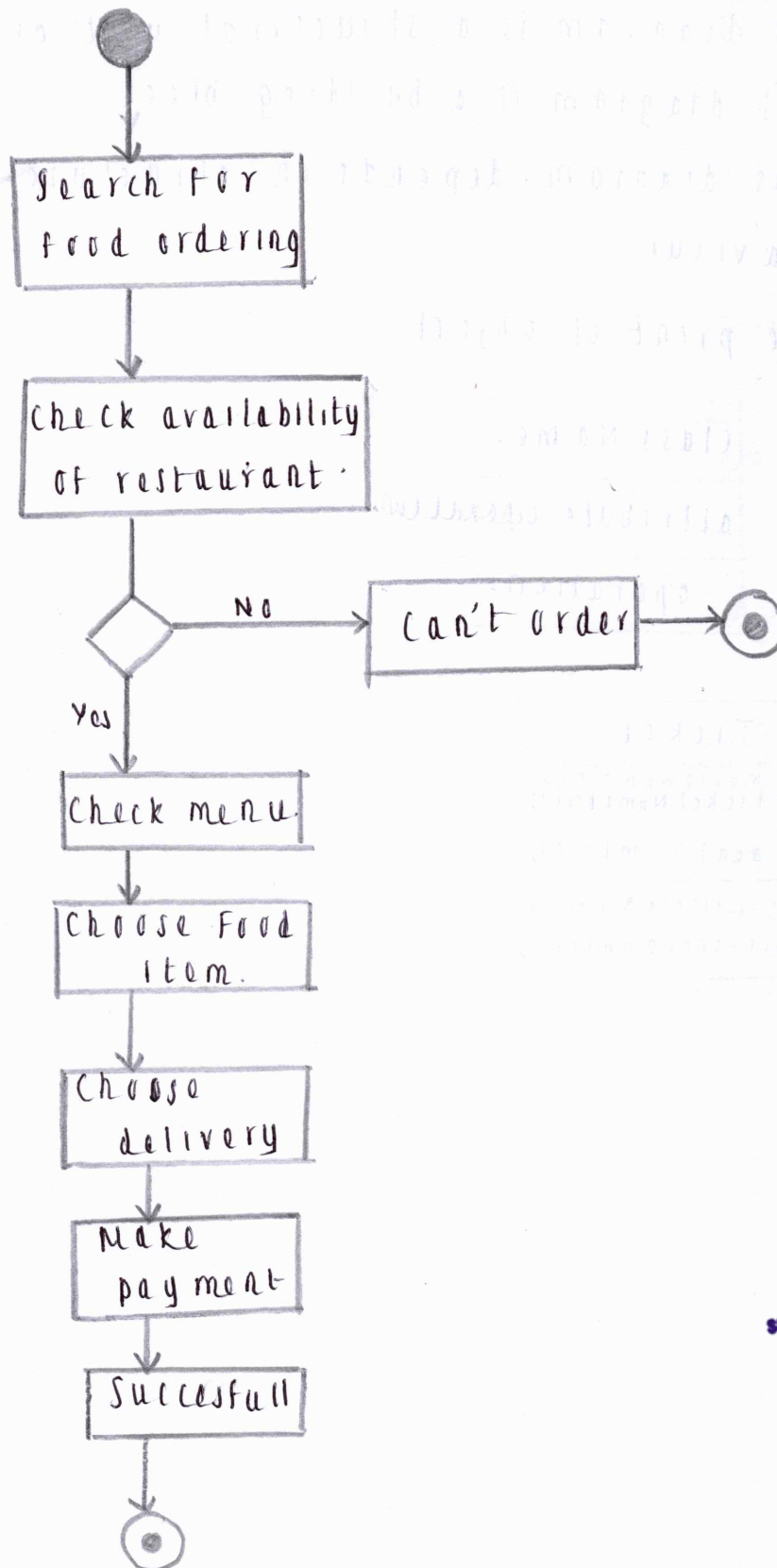
attributes: status, location

operation: create, get - location, set - alarm, reset alarm.

a) →


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6. a)



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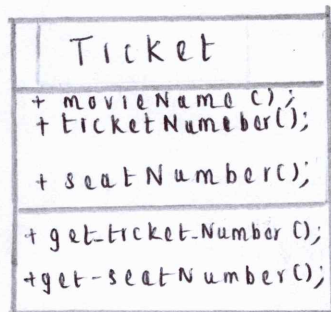
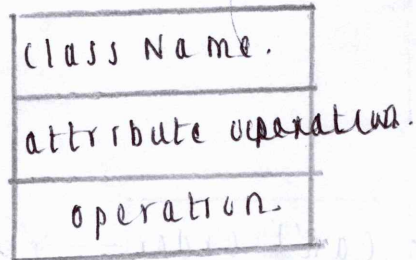
1. public static void main (String[] args)

public : It can be accessed anywhere.

static : use static keyword, value is fixed, no object creation

void : doesnot return any value.

2. class diagram is a structural unit diagram
- class diagram is a building block.
 - class diagram depends on structure rather than behaviour
 - Blue print of object



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CONTINUOUS ASSESMENT TEST - ANSWER BOOK

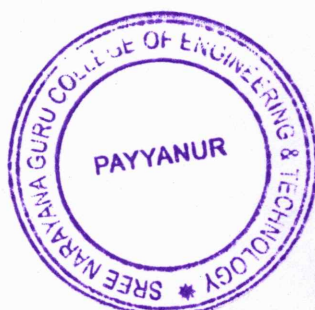
Name: HAIFA L	Roll Number: 24
Register Number: SNCRICS024	Branch: CSE
Course Code/Name: EST 205	

Continuous Assessment No.	Date of Exam	Session	Maximum Marks	Marks obtained	Student Signature	Staff Signature
1	13-12-22	FN	50	44	<i>[Signature]</i>	Nimiso 17/12/22
TOTAL MARKS						
STAFF SIGNATURE						Nimiso 17/12/22

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
A	3	3	3	2	2	7		10		14								
B																		
C																		
D																		
Total	3	3	3	2	2	7		10		14								
TOTAL MARKS															44			

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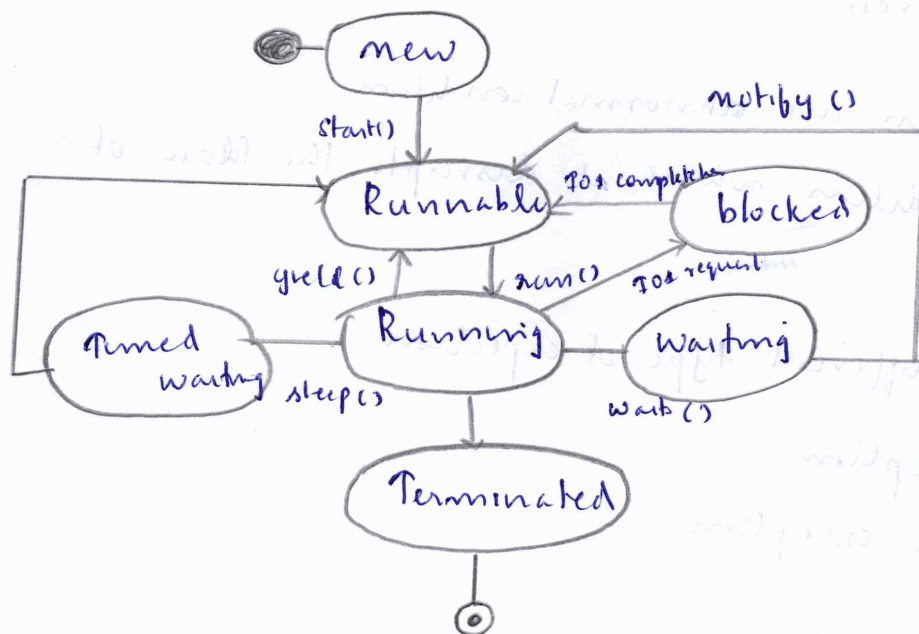


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1)

Byte stream	character stream
* Handle the data in bytes * Store the data in binary files * Can store images, videos, audios etc * Eg:- Input stream & output stream	* Handle the data in 16 bit unicode * Stores the data in unicode conversion * Can read and write text only * Can read and write data value character by character - Eg: File Reader, File Writer

2)



new:- In this step, create instance Thread class before convocation of start

Runnable:- ~~new~~ The stage after convocation of start where the scheduler do not select it as

Running:- Scheduler selected it as running

blocked:- It is the stage where thread is alive but it does not run

terminated:- It is the method where ~~pro. it run~~ program is terminated or dead where it run() method exists

- 5)
- * Platform independent
 - * light weight
 - * Customizable
 - * Plugging
 - * Manageable
 - * Model view controller (MVC)
 - * Rich controls

- 6)
- Exception it is an abnormal condition
 - It is a condition where it disrupts the flow of instructions

There are different type of exception

- * Checked exception
- * Unchecked exception
- * error

Checked exception:- It is the exception that occurs at compilation time

- It is also called compile time exception

Eg:- IO exception

Unchecked:- It is present at run time
also called run time exception

Eg:- Null pointer exception

* There are 5 Exception handling keyword in java

- 1) Try
- 2) Catch
- 3) Finally
- 4) Throw
- 5) Throws

Try:- It is defined as a space where it encloses the exception. It can occur alone. It will be with catch or finally.

Eg:-

```
class TryExample CatchExample
public static void main (String [] args)
{
    Try
    {
        int data = 500;
    }
    catch (Exception e)
    {
        System.out.println (e);
    }
}
```


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2) catch :- catch is used to handle exception.

Catch is present preceding catch. finally will be there after catch

eg:- class Try Catch Example

```
public static void main (String[] args)
```

```
{
```

```
Try
```

```
{
```

```
int data = 50/0;
```

```
}
```

```
catch (Exception e)
```

```
{
```

```
System.out.println(e);
```

```
}
```

3) Throw :- (Throw) is used to throw an exception

eg:- class ~~main~~ ThrowTest

```
public static void validate (int age)
```

```
{
```

```
if (age < 18)
```

```
Throw Exception ("Person is not eligible to vote");
```

```
}
```

```
else
```

```
{
```

```
System.out.println("Person is eligible to vote");
```

```
}
```

```
public static void main (String args[])
```

```
{
```

```
validate(13)
```

```
System.out.println("Rest of code");
```

```
}
```

```
}
```

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4) Finally :- Finally keyword is used to execute the exception. Exception is executed whether it is handled or not

Eg:- class Demo Example

```
public static void main (String args[])
```

```
{  
    int first number, second number;
```

```
    try
```

```
{
```

```
        first number = 0
```

```
        second number = 62 / first number
```

```
        System.out.println ("Hi, I am at the end of try block");
```

```
    }
```

```
    catch
```

```
{
```

```
        System.out.println ("a Number can't divided by 0");
```

```
    }
```

```
    finally
```

```
{
```

```
        System.out.println ("I am finally, I execute every exception");
```

```
    }
```

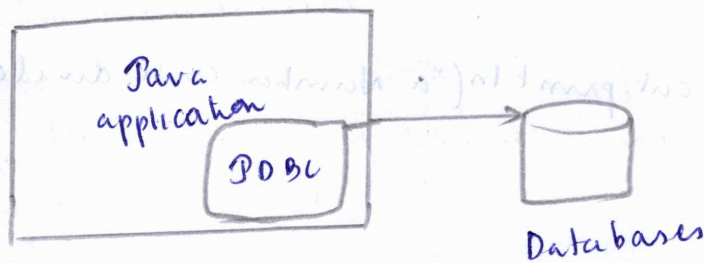
```
}
```

5) Throws :- Throw is used to declare an Exception.

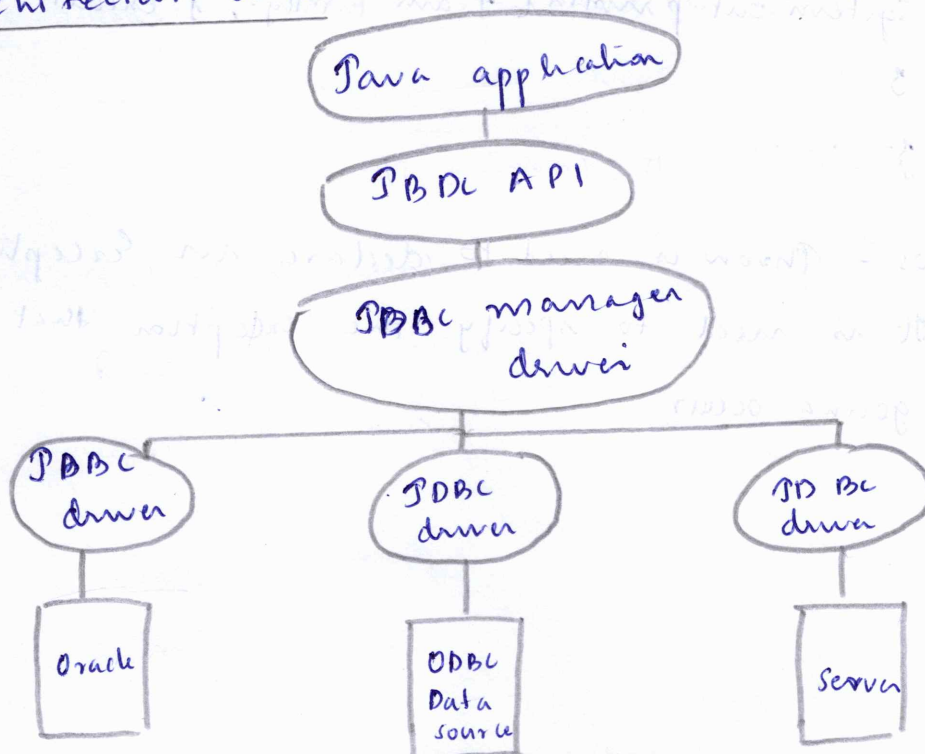
It is used to specify the exception that is gonna occur

10) JDBC - Java data Base connectivity

- * Java database connectivity is standard API for independent database connectivity with Java programming language and various data bases
- * API gives access to the statement in structured query language
- * JDBC is library form API for the following
 - * Make a connection to Data base
 - * Create SQL & MySQL statements
 - * Execute SQL & MySQL queries
 - * View and modify the results



Architecture of JDBC



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* There are 5 steps in JDBC

- 1) Register the driver class
- 2) Create connection
- 3) Create statement
- 4) Execute Queries
- 5) Close connection

1) Register the driver class

- It is the first step, first we need to load or ~~drive~~ the register driver class
- It is done once in the program
- `Class.forName("com.mysql.jdbc.Driver")`

2) Create connection

- `getConnection()` method by Driver Manager class method
- `void getConnection (String url, String name, String password)` throws IOException

3) Create statement

- After getting connection, create statement by connection class method
- `Statement` created is executed in next step
- Syntax :- `Statement stmt = con.createStatement();`

4) Execute queries

- Execute queries () with statement method
- There are 2 types of queries

1) Query updating

2) Query retrieving

* Execute ()

* Execute Query ()

* Execute update ()

5) close connection

- It is used to close connection

Syntax = close connection = con.close();

Eg:-

```
import java.sql.*;
```

```
class mysql {
```

```
public static void main(String args[])
```

```
{  
    try
```

```
{  
    class.forName("com.mysql.jdbc.Driver");
```

```
    Connection con = DriverManager.getConnection
```

```
        ("jdbc:mysql://localhost:3306/student", "student", "student");
```

```
    Statement stmt = con.createStatement();
```

```
    ResultSet rs = stmt.executeQuery("Select * from user");
```

```
    while(rs.next())
```

```
{
```

```
        catch
```

```
        con.close();
```

```
}
```

catch (Exception e)

{

~~(Exception e)~~

System.out.println(e);

}

}

8)

Different string comparison methods in java are

1) By equals()

2) By equalsToIgnoreCase();

3) By operators

4) By compareTo()

5) By compareToIgnoreCase()

1) By equals() & By equalsToIgnoreCase()

- It compares the string value which is equal
- It gives the value unity

Eg:- import java.io.*;

import java.awt.*;

class StringCompare

{

public static void main (String args[])

{

String str 1 = "java"

String str 2 = "java"

String str 3 = "python"

System.out.println (S1, equal (S2))

System.out.println (S1, equals (S3))

}

}

Output :-

True

False

2) By operators (==)

- It compare the reference not values

Eg:- import java.io.*;

import java.swing;

class compares

{

public static void main(String args[])

{

String str1 = "java"

String str2 = "Java"

String str3 = python

System.out.println (s1 == s2)

System.out.println (s1 == s3)

System.out.println (s2 == s3)

}

}

Output

False

False

False

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3) By Compare() & compareToIgnoreCase()

4

• It compares the value lexicographically

• Consider two string S_1 & S_2

$S_1 = S_2$: 0

$S_1 > S_2$: 1

$S_1 < S_2$: -1

Eg:- import java.io.*;

import javax.swing.*;

class Compare

{

public static void main (String args[])

{

String str1 = "java"

String str2 = "python"

String str3 = "Java"

System.out.println (S1.compareTo(S2))

System.out.println (S2.compareTo(S3))

System.out.println (S1.compareToIgnoreCase(S3))

}

Output

-1

1

0

4)

1) java.awt.BorderLayout

2) java.awt.GridLayout

3) java.awt.FlowLayout

4) javax.swing.BoxLayout

5) java - swing. Spring layout

• Border layout:-

In Border layout arrange ~~not~~ components in different region

• Grid layout:-

In Grid layout arrange component in rectangular grid

• Flow layout:-

In Flow layout components arranged line by line.

• Card layout:-

In card layout only one component is visible at a time

• Box layout:-

Components are arranged horizontally and vertically

3)

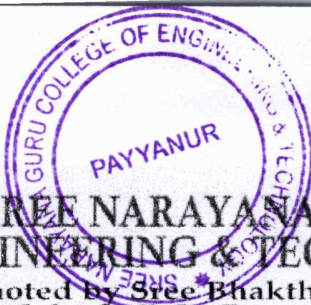
String

- String is ~~fast~~ Immutable
- String is slow and requires more memory when you concat a string
- String overide the equals() by method object

~~String Bu~~

String Buffer

- String Buffer is mutable
- String buffer is faster and requires less memory when you concat a string.
- String buffer doesnot override the equals()
- String Buffer append()
- String Buffer Insert()
- String Buffer Reverse()



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CONTINUOUS ASSESMENT TEST - ANSWER BOOK

Name: <u>Abhinav K</u>	Roll Number: <u>3</u>
Register Number: <u>SNCRICS003</u>	Branch: <u>CSE</u>
Course Code/Name: <u>CST 205, Object Oriented Programming in Java</u>	

Continuous Assessment No.	Date of Exam	Session	Maximum Marks	Marks obtained	Student Signature	Staff Signature
<u>3</u>	<u>5/1/23</u>	<u>FN</u>	<u>50</u>	<u>32.5</u>	<u>[Signature]</u>	<u>Nimishu</u> <u>5/1/23</u>
TOTAL MARKS					<u>32.5</u>	
STAFF SIGNATURE						<u>Nimishu</u> <u>5/1/23</u>

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
A	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>0</u>		<u>9</u>	<u>0.5</u>	<u>10</u>								
B																		
C																		
D																		
Total	<u>3</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>3</u>	<u>0</u>		<u>8</u>	<u>0.5</u>	<u>10</u>								
TOTAL MARKS															<u>32.5</u>			

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1) The Java Buzz words are:

- Simple :- Java is a simple programming language
- Powerful :- Java is powerful.
- Object oriented programming language
 - Class
 - Object
 - Data abstraction
 - Data encapsulation
 - Data polymorphism
 - Data inheritance.
- Robust - Java has very good memory management
- Secure :- Java is secure because it runs byte code which only JVM can interpret.
- Platform independent - Java is can run in almost any platform
- Multithreading :- Java allows multithreading.

2. Checked	Unchecked
• It is a type of exception which is checked by the compiler during execution • It is compile time.	• It is unchecked by the compiler. • It is run-time
eg: IOException	eg: Arithmetic Exception

3. Packages are group of sub classes, interface and methods. It is used to achieve data encapsulation. Packages can be declared by three methods:

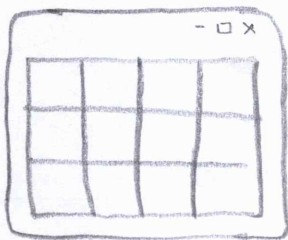
- (i) ~~by~~ import package.*;
- (ii) import package.classname;
- (iii) By fully qualified name

Interface is a blueprint of class. It contains static constants and abstract methods. It is used to achieve data abstraction and multiple inheritance which is not supported by java. Declared using "interface" keyword.

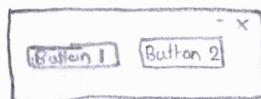
4. Swing Layout Manager in Java are:

- (i) Border Layout:- It is used for getting bordered graphical interface.
- (ii) Grid Layout:- It is used for getting grid graphical interface.
- (iii) GroupLayout:- Used for having group of buttons.

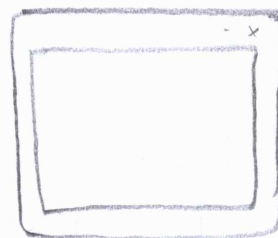
Grid Layout



Group Layout



Border Layout



5. The features of Swing API are:

- (i) Platform Independent:- There is not specific independent Swing API
- (ii) Light weight:- It is light weight and runs easily

- Maneagable:- It is very easy to manage
- Rich controls:- It has modern java controls.
- Customizable:- It is easy to customize
- Model View Controller:- It is an architecture present in swing API
- Plugging

10. For establishing database connectivity here we are using

my SQL. For that we need:

- Connection
- Driver manager
- Username
- Password

```
import java.sql;
```

```
class ConnectionCon
{
```

```
    public static void main (String[] args)
    {
        try {
```

```
            Connection con = new Connection (System.in)
            Driver Manager = (mysql.jdbc.driver)
```

```
            Driver Manager = Driver ("//jdbc:server/
```

```
                local: 3306 /
```

```
            System.out.println ("root, root");
```

```
            System.out.println ("getInt b1 " , getShing b2 " ");
```

getShing b3 " ");

```
} catch (Exception e)
{
    System.out.println("
}
}
```

Here the username is taken as root and password is also taken as root.

8. Exceptions are the unexpected events occur during the execution of a program which obstruct the flow of the program. ~~This can be~~ Exceptions are ~~two~~ by three types:

- Checked:- These are checked during compiling
- Unchecked :- These are unchecked during compilation
- Errors :- These can't be handled.

Exceptions can be handled. For handling Exceptions we use some keywords:

(i) try:- These keywords are used when exceptions are occurred. Try cannot be alone. It will be followed by catch

```
try {
    // block of code
}
```

(ii) catch:- It is used ~~when~~ to handle exceptions. It is after try keyword and may be followed by

finally keyword.

try {

// block of code

}

catch (Exception e)

{

// block of code to handle exception

}

A

(iii) finally:- It is the crucial to be execution whether exception occurs or not.

finally

{

// crucial code

}

(iv) throws :- It throws an exception.

eg: throws IOException

(v) throw:- It is used to declare an exception.

6. Function oriented

- It considers virtual entity for design approach

Object Oriented

- It considers real world entity.

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9. 4 :

	Public	Private	Protected
Same clay	Yes	Yes	Yes


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